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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,494	03/05/2007	Tomoshige Umeda	292904US0PCT	6287
22850 7590 07/08/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SAYALA, CHHAYA D	
			ART UNIT 1794	PAPER NUMBER
			NOTIFICATION DATE 07/08/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/584,494	<b>Applicant(s)</b> UMEDA ET AL.	
	<b>Examiner</b> C. SAYALA	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 3/18/2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

Newly submitted claims 4-5 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-3, drawn to a pet food, classified in class 426, subclass 656.
- II. Claim 4, drawn to a method of obtaining long-term skin and hair health, classified in class 514, subclass 54 and/or 68.
- III. Claim 5, drawn to a method of obtaining anti-obesity effect, classified in class 514, subclass 54 and/or 68.

Newly submitted claims 4-5 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in a process as an anti-obesity factor.

Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially

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different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in a process to improve skin and hair.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 4-5 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US Patent 6764708) and Schoenherr (US Pub. 2004/0101545A1) in view of Sheilds, Jr. et al. (US Patent 6156355), Tao (US Patent 6245377) and Graf (US Patent 5270337) and further in view of Lacombe et al. (US Patent 6277435) and Lepine et al. (US Patent 5851573).

Suzuki teaches a pet food with 1-30 wt % of oil or fat that comprises 10 wt % or more of diglycerides. See col. 2, lines 66-67.

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The reference also discloses the addition of an antioxidant to the oil or fat composition such as vitamin C or vitamin C fatty acid esters in an amount 0.01-05% by weight. See col.4, lines 21-27. The reference also teaches addition of iron in an amount 0.05-10%.

The reference does not teach copper, manganese and cobalt in the pet food.

The Schoenherr reference teaches a dog diet wherein DAG is 60% of the supplemental fat, which is 5.25 wt % of the food. See example 1. The reference does not teach any antioxidants, although it does disclose generally, that vitamins and minerals are included in the diet.

Shields, Jr. et al disclose the following at col. 5, lines 60 + and col. 6, lines 30+ respectively:

Free radicals which form upon exposure to the environment or during normal metabolism can be harmful to cell membranes, proteins and genetic material which can have adverse consequences on the quality of the food and to the body as well. Accordingly, the subject formulations comprise a balanced blend of antioxidants with respect to solubility (fat or water soluble), stage of rancidity in which they act (oxygen scavengers, free radical termination), and tissues in which they concentrate in the body. Additionally, some antioxidants are complementary and others antagonistic to one another, so balance of these antioxidants is crucial. Accordingly, the subject formulations have been designed to incorporate a blend of vitamins (tocopherols, Vitamin C (ascorbic acid), minerals (copper, zinc and iron in both inorganic and organic complex form), carotenoids (such as beta carotene and lutein from marigold extract) and herbs (including rosemary), to perform this very important function.

Also, the subject formulations comprise a blend of inorganic minerals and mineral proteinates. The latter form may improve vitamin (and therefore antioxidant) stability since some

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minerals, such as copper and iron, are pro-oxidants. Because they are metabolized differently than inorganic minerals their availability is also generally higher so the body rather than the stool benefits from the minerals in the diet. Examples thereof include zinc oxide, zinc proteinate, ferrous sulfate, iron proteinate, manganous oxide, copper sulfate, copper proteinate, calcium iodate, sodium selenite, and potassium citrate.

Tao teaches at col. 4, lines 19-26:

An antioxidant is an agent that inhibits oxidation and thus prevents the deterioration of material, such as fats and oils, through the oxidative process. An antioxidant is also known as a free radical scavenger. Any edible acid that has antioxidant properties can be used to treat the parboiled rice bran. Examples of these kinds of acids include ascorbic, ascorbyl palmitate and phosphoric acid, in addition to other ascorbic acid preparations, other forms of Vitamin C, and mixtures of any of the above.

Graf teaches at col. 13, lines 45-51:

A number of oil-based food systems undergo oxidative rancidity and develop off-flavors, so that a system to scavenge oxygen from such systems would aid in preserving such foods. For such a system, a fat-soluble derivative of the ascorbic acid/copper combination was used.

Thus these prior art references recognize that the addition of antioxidants to fat/oil compositions were beneficial in that they prevented rancidity. Note that they use vitamin C, vitamin C esters and an ascorbic acid/copper system. It would have been obvious to add such antioxidants to the fat/oil composition of the primary references of Suzuki or Schoenherr for this usefulness. This reinforces the teaching in Suzuki, wherein the antioxidants, vitamin C and vitamin C esters and iron are already disclosed.

With respect to the addition of the minerals, cobalt and manganese to pet foods, Lacombe et al. and Lepine et al., both references are drawn to pet foods and both teach that minerals such as Mn, Co, and Cu salts are customarily added to pet foods (see Lacombe et al at col. 4, lines 5-10 and Lepine et al. at col. 3, lines 17-25). Such mineral addition is usually made in small amounts, and therefore based on this, to add small amounts of Mn and Co to the Suzuki composition, which already teaches iron and vitamin C in pet foods and based on the ascorbic acid/copper system of Graf, which acts as an antioxidant for fat/oils, it would have been obvious to combine these with cobalt and manganese, as essential minerals to a pet food diet.

With respect to claim 3, while Suzuki teaches using antioxidants such as vitamin C fatty acid esters in conjunction with the diglyceridic fats and oils, to off-set rancidity which occurs as a result of oxidation, Tao teaches ascorbic acid (vitamin C) and ascorbyl palmitate as antioxidants for fats and oils, rendering claim 3 limitation obvious to one of ordinary skill in the art at the time the invention was made.

### ***Response to Arguments***

Applicant's arguments filed 3/18/2009 have been fully considered but they are not persuasive.

At page 3, applicant states:

Furthermore, the addition of minerals, such as copper, iron, manganese and cobalt, to an oil or fat having a high unsaturated fatty acid content as nutrients is reported to accelerate the oxidation reaction of the oil or fat, so that the long-term storage stability of the minerals decline. See pages 1-2 of the present specification.

The inventors have investigated the stability of pet food systems combining an oil or fat having a high unsaturated fatty acid content and minerals, by adding various

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ingredients. As a result, it has been found that the long-term storage stability improves pronouncedly when 5 wt% or more of diacylglycerol is contained in the oil or fat and from 0.1 wt% or more of a vitamin C derivative is added, based on the oil or fat containing unsaturated fatty acids. See page 3 of the present specification.

In response, the reference of Suzuki teaches a pet food combining oil or fat with an antioxidant such as vitamin C, vitamin C fatty acid ester or natural antioxidant components (col. 4, lines 23-26). Therefore, by stating that these components are “antioxidants”, it is clear that the reference recognizes that fats or oils require stability, because of the well-known fact that oils and fats turn rancid due to oxidation upon storage.

Next applicant states that the pet food provides excellent anti-obesity effect and improved skin and hair.

In response, Suzuki recognizes that the oil or fat composition of their invention reduces the offensive odor due to animal proteins in pet foods and any discomfort thereof. Additionally, Schoenherr recognizes that diacylglycerols “reduces weight in overweight pet dogs and cats” (¶ [0010]). As for the improvement in skin and hair the burden is being shifted to applicant to provide any basis that upon finding a new advantage for a composition, it is rendered patentable.

Summarily, the references show:

**Suzuki:** pet food with diacylglycerol containing oil or fat; pet food contains antioxidants vitamin C, vitamin C esters and natural antioxidants.



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**Schoenherr:** pet food containing diacylglycerol that reduces weight of overweight dogs

**Shields, Jr.:** addition of antioxidants such as vitamins, minerals (copper and iron) and vitamin C to pet food formulations, addition of inorganic minerals improves vitamin antioxidant stability since iron and copper are pro-oxidants.

**Tao:** antioxidants inhibit the oxidation of oils and fats and include ascorbic acid and ascorbyl palmitate

**Graf:** oil-based foods undergo oxidation and to prevent this an ascorbic acid/copper system scavenges oxygen from such foods.

From such disclosure it is clear that

a. fats or oils containing diglycerides were incorporated in pet foods along with antioxidants such as vitamin C and its esters and natural antioxidants

b. that pet foods containing diglyceridic fats and oils cause weight loss in dogs

c. that addition of antioxidants to such fats and oils reduces oxidation and therefore increases the efficacy of such oils and fats by stabilizing them against rancidity, antioxidants such as vitamin C, ascorbyl palmitate, copper, iron, zinc, cobalt, manganese, etc.

At page 4, last paragraph and in the declaration, applicant provides diacylglycerol containing plant oil and ascorbic acid palmitate in pet food formulations (Example A and Example B), that show no change in skin and health conditions compared to an improvement. See page 2 of the declaration. With respect to the anti-obesity effect, a

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marked improvement was noticed, which would have been expected by the skilled worker based on the disclosure by the Schoenherr reference. Therefore, the declaration and the results therein are not persuasive in face of the reference disclosure themselves. On the other hand, it should be noted that these are product claims and while prior art discloses advantages such as reduction in offensive odor upon using vitamin C or its esters with oil and fats with diglycerides, Schoenherr notes that diglycerides cause weight loss in dogs. See the discussion of latent properties and additional advantages in MPEP § 2145.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Sayala, whose telephone number is (571) 272-1405. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/C. SAYALA/  
Primary Examiner, Art Unit 1794**